

REMARKS

The Examiner is thanked for the due consideration given the application.

Claims 1, 2 and 4-20 are pending in the application. Claim 3 has been canceled and its subject matter has been generally incorporated into claim 1. Claims 2 and 4-20 have been amended to improve their language in what is believed to be a non-narrowing fashion.

Rejections Over FORSTER et al.

Claims 1-14 and 16-20 have been rejected under 35 USC §102(a) as being anticipated by FORSTER et al. (*Real Time Range Imaging for Dynamic Scenes Using Colour-Edge Based Structured Light*, Vol. 3, pp. 645-648, August 11, 2002). Claim 15 has been rejected under 35 USC §103(a) as being unpatentable over FORSTER et al. Claims 1-20 have been rejected under 35 USC §102(f) as not having been invented by the applicant in light FORSTER et al. These rejections are respectfully traversed.

FORSTER et al. was published on August 11, 2002. In contrast, the present invention claims priority of German Application No. 102 32 690.8, filed on July 18, 2002. An English translation of the International Application is of record in the present application. As a result, FORSTER et al. is not prior art to the present invention for the purpose of 35 USC §102.

Also, although FORSTER et al. has different authorship than the inventorship of the present invention (but both include

FORSTER), it is noted that the inventorship of a patent and the criteria for authorship of a scientific paper are not identical. Also, there is subject matter in FORSTER et al. that is not set forth in the present application, for example, the pattern design equation (3) at the left hand column of page 647 of FORSTER et al. Also, there is subject matter in the present application that is not present in FORSTER et al., such as the number series at page 8, lines 5-6 of the specification. As a result, it is believed that the present inventors claimed the subject matter of the instant claims.

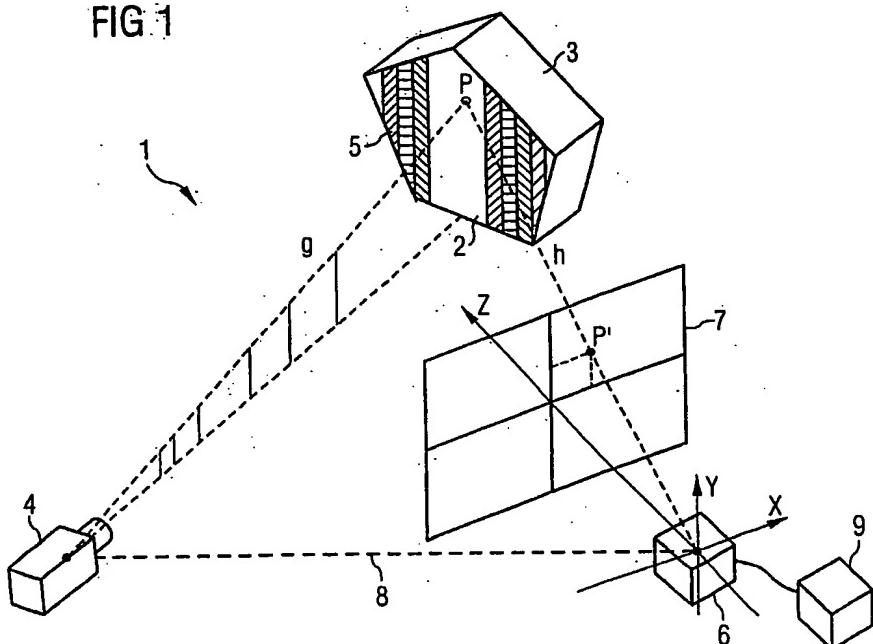
These rejections are believed to be overcome, and withdrawal thereof is respectfully requested.

**Rejection Over HOFFMANN and WANG**

Claims 1-20 have been rejected under 35 USC §103(a) as being unpatentable over HOFFMANN (DE 19963333 A1) in view of WANG (U.S. Patent 5,912,644). This rejection is respectfully traversed.

The present invention pertains to a method for projecting a color pattern that is illustrated, by way of example, in Figure 1 of the application, which is reproduced below.

FIG. 1



As shown in Figure 1, the method includes projecting a color pattern (5) with known projection data onto the object to be detected (3), recording the color pattern (5) projected onto the object (3) with a camera (6), and processing the image (7) recorded by the camera (6) in an analysis unit (9) into three-dimensional object coordinates of the object (3). Claim 1 of the present invention sets forth "the projection data in the color pattern (5) is encoded with the aid of redundant code, and color changes of the color pattern (5) are structured with the aid of codewords of redundant code," and "during analysis in the analysis unit (9), the codewords are allowed corresponding color changes as valid color changes."

HOFFMANN pertains to a process for determining three-dimensional surface coordinates. HOFFMANN fails to teach that the

projection of data is encoded with the aid of redundant code. The Official Action acknowledges this failure of HOFFMANN at page 3, lines 6-7. The Official Action then turns to WANG.

WANG pertains to the utilization of redundant code for determining two-dimensional coordinates, for example, in a global positioning system.

However, there is no teaching or inference in either HOFFMANN or WANG that would lead one of ordinary skill to combine the references. HOFFMANN projects a pattern onto an objective layer, which serves project light. The utilized pattern includes code, for example, in the form of a rectangle, that has nothing in common with the surrounding rectangles.

In contrast, the spread spectrum positioning system of WANG (see Figure 1 of WANG, reproduced below, is fundamentally different from that of HOFFMANN, and one of ordinary skill would have no reason to look to WANG when working in the field of the present invention.

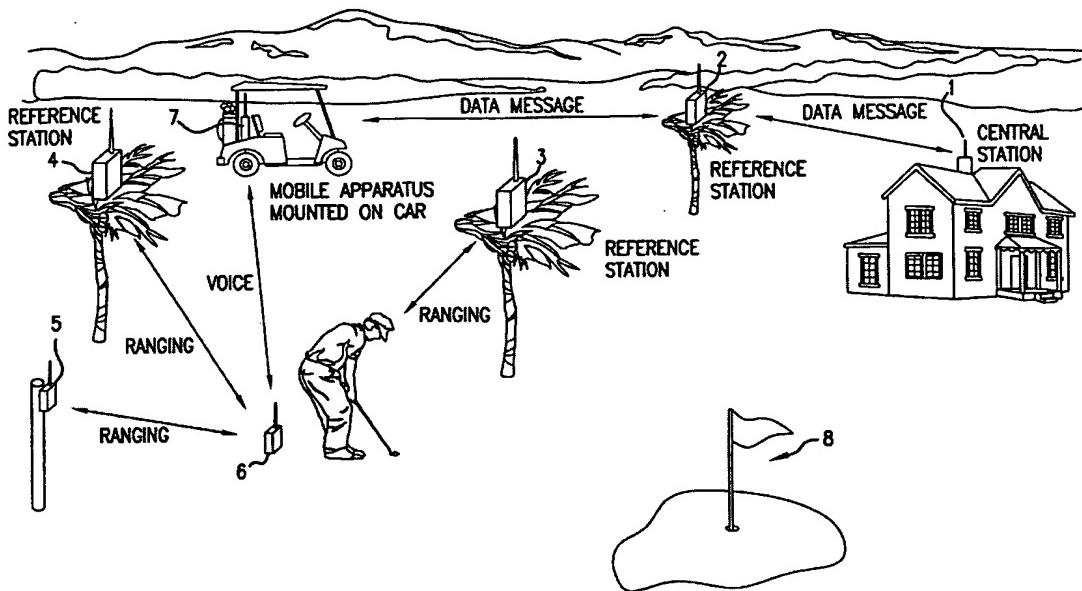


FIG.1

In comparison, the present invention sets forth a process for the three-dimensional detection of objects in which "the projection data in the color pattern (5) is encoded with the aid of redundant code, and color changes of the color pattern (5) are structured with the aid of codewords of redundant code," and "during analysis in the analysis unit (9), the codewords are allowed corresponding color changes as valid color changes." See claim 1 of the present invention.

Additionally, column 32, lines 23-31 of WANG (referred to in the Official Action) merely teaches the utilization of cyclic redundant codes (CRC) to check if data has been received correctly. There is no teaching or inference in WANG of using redundant code for encoding color data, such as in the present invention.

One of ordinary skill in the art would thus not combine HOFFMANN with WANG to produce claim 1 of the present invention. Even if HOFFMANN and WANG were combined, the combination would fail to produce claim 1 of the present invention. A *prima facie* case of unpatentability has thus not been made. Claims depending upon claim 1 are patentable for at least the above reasons.

This rejection is believed to be overcome, and withdrawal thereof is respectfully requested.

**Information Disclosure Statement**

The Information Disclosure Statement filed May 18, 2005 included a general translation of the claims of DE 196 38 727 A1 (DE '727). It is further noted that claim 1 of DE '727 fails to mention redundancy, that claim 4 of DE '727 has a concentric element that is not present in the present invention, and that claim 9 sets forth medical diagnostics which is believed to not have been present in the original disclosure.

**Conclusion**

The Examiner is thanked for considering the references filed in the Information Disclosure Statements of January 18, 2005 and May 18, 2005.

Prior art of record but not utilized it believed to be non-pertinent to the instant claims.

The rejections are believed to have been overcome, obviated or rendered moot and that no issues remain. The Examiner is accordingly respectfully requested to place the

application in condition for allowance and to issue a Notice of Allowability.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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